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***Retrospective Study***

**Impact of an emergency department nursing intervention on continuity of care, self-care, and psychological symptoms**

Xu S *et al*. Nursing intervention and iatient outcomes

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**Abstract**

BACKGROUND

The emergency department plays a crucial role in providing acute care to patients. Nursing interventions in this setting are essential for improving the continuity of care, enhancing patients’ self-care abilities, and reducing psychological symptoms.

AIM

To evaluate the effect of nursing interventions in the emergency department on these indicators in an emergency department.

METHODS

A retrospective analysis was conducted on 120 patients admitted to the emergency department between January 2022 and May 2023. The patients were divided into two groups: the control group (conventional nursing intervention) and the observation group (conventional nursing intervention + emergency department nursing intervention). The two groups were compared regarding continuity of care, self-care ability, psychological symptoms, and satisfaction with care.

RESULTS

The emergency department nursing interventions significantly improved the continuity of care, enhanced patients’ self-care abilities, and reduced psychological symptoms such as anxiety and depression.

CONCLUSION

Nursing interventions in the emergency department positively impact continuity of care, self-care, and psychological symptoms. However, it is important to acknowledge the limitations of this study, including the small number of studies, variable methodological quality, and the heterogeneity of the study population. Future research should address these limitations and further explore the effects of different types of nursing interventions in the emergency department. Additionally, efforts should be made to enhance the application and evaluation of these interventions in clinical practice.

**Key Words:** Emergency department; Nursing interventions; Continuity of care; Self-care; psychological symptoms

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**Core Tip:** Future research should address these limitations and further explore the effects of different types of nursing interventions in the emergency department. Targeted nursing interventions can alleviate psychological symptoms and improve patients’ psychological well-being.

**INTRODUCTION**

The emergency department is crucial for providing treatment for acute illnesses and trauma. Nursing interventions in this setting are essential for improving the continuity of care, enhancing self-care abilities, and alleviating psychological symptoms[1-5]. Emerging evidence from clinical practice indicates that these interventions positively impact the patients’ overall health status[6-9]. Therefore, conducting a comprehensive study of these effects can enhance the quality of care and improve patient outcomes.

Continuity of care in the emergency department involves providing uninterrupted care throughout the patient’s stay, including monitoring their condition, implementing care measures, and assessing outcomes. It has been shown that good continuity of care can effectively reduce complications and improve patient outcomes[10-15]. Self-care refers to a patient’s ability to independently perform activities of daily living (ADL) and self-care while in the emergency department. Nursing interventions can improve patients’ self-care abilities, reduce their reliance on healthcare professionals, and enhance their quality of life[16-23]. Psychological symptoms such as anxiety, depression, and fear are common among emergency department patients. These symptoms can negatively affect patient recovery and prolong the hospital stay[24]. Targeted nursing interventions can help alleviate psychological symptoms and improve patients’ psychological well-being.

**MATERIALS AND METHODS**

***General information***

We retrospectively analyzed the data of 120 patients admitted to our hospital’s emergency department between January 2022 and May 2023. The inclusion criteria were as follows: (1) Age range: Patients in the emergency department were adults aged 18 years and older; (2) primary diagnosis: patients with acute illness, trauma, or other acute medical problems requiring emergency department nursing intervention; (3) self-care: patients had some ability to care for themselves and could understand and follow instructions for nursing intervention; and (4) consent to participate: patients or their legal representatives agreed to participate in the study and signed an informed consent form. Exclusion criteria were as follows: (1) Age restriction: patients under the age of 18 years were excluded from the study; (2) critical status: severe illness or trauma requiring urgent intensive care or surgical treatment; (3) state of consciousness: patients with impaired consciousness or an unstable mental status who were unable to cooperate with the nursing intervention assessment; (4) unable to provide informed consent: patients unable to understand, express, or sign an informed consent form; and (5) previously received similar interventions: patients who had previously received an emergency department nursing intervention or a similar research intervention. The study design considered the feasibility, ethical requirements, and practicalities to ensure scientific validity and reliability.

The control group consisted of 60 patients who received conventional nursing intervention, whereas the observation group received both conventional nursing intervention and emergency department nursing intervention. The control group consisted of 30 males and 30 females, with an age range of 43-75 years (58. 41 ± 3. 17), and the length of hospital stay ranged from 7-20 d (10. 54 ± 2. 57). The observation group consisted of 29 males and 31 females, aged 44-77 years (58. 47 ± 3. 22).

The duration of hospitalization ranged from 8 to 22 d [(mean: 10. 68 ± 2. 61) d]. There were no statistically significant differences between the two groups in terms of sex, age, or duration of hospitalization (*P* > 0. 05).

***Methodology***

In the control group, routine care was provided, including maintaining a constant room temperature, regularly opening windows and doors, providing a balanced diet based on the patient’s preferences, guiding the patient to change positions, and providing psychological care.

In the observation group, emergency department nursing interventions were carried out in addition to conventional nursing care: (1) Optimizing the nursing process: Improving the efficiency and quality of patient care by optimizing the nursing process and operational specifications in the emergency department. This includes the rapid assessment of patients, prioritization of treatment for critically ill patients, and prompt examinations and treatments; (2) personalized care plans: developing personalized care plans based on each patient’s specific situation and diagnosis. Considering the patients’ conditions, needs, and preferences, nursing interventions were tailored to their individual situations; (3) nursing education: providing relevant health education and nursing guidance to patients and their family members. This includes educating patients about the disease, treatment plans, and medication to help them better understand and cope with acute medical problems; (4) psychological support: recognizing that patients in the emergency department often experience psychological symptoms such as anxiety, fear, and stress. Nursing staff can reduce patients’ psychological burdens and provide positive psychological support through active listening, reassurance, and emotional support; (5) pain management: effectively addressing and managing pain in patients with pain in the emergency department. The nursing staff assessed pain, managed medication, and provided physiotherapy to alleviate pain; (6) critical care: providing close monitoring of patients in critical conditions, including continuous monitoring of vital signs, ongoing assessment of the patient’s condition, and timely intervention to ensure patient safety and stability; (7) rehabilitation and referral arrangements: Offering relevant rehabilitation advice and referral to other departments. Nursing staff can provide relevant rehabilitation advice, referral arrangements, and follow-up for patients who require rehabilitation care or need to be referred to other departments; and (8) establishing a nursing team to summarize key considerations in nursing care and improve emergency care foresight by reviewing and summarizing nursing care.

***Indicators of observation***

(1) The observation indicators for continuity of care include re-attendance rate into the emergency department after a visit: This indicator assesses the frequency at which patients return to the emergency department within a certain period after their initial visit; hospitalization rate: This indicator assesses whether patients require hospitalization or not. Outpatient follow-up rate: This indicator measures the proportion of patients requiring further treatment or follow-up in the outpatient clinic; and (2) Self-care ability observation indicators include assessment of ADL (0-100 points, the higher the score, the stronger the ability): This assessment evaluates the patient’s ability to perform daily activities, such as eating, washing, dressing, toileting, and walking; and self-assessment scales: Patients self-report their level of self-care ability through self-assessment scales, such as the Barthel Index and Lawton Self-care Ability Scale. The observation indicators for psychological symptoms include the Symptom Self-Rating Scale (SCL-90): This scale assesses the severity of the patient’s psychological symptoms.

**RESULTS**

The observed indicators of continuity of care were compared between the two groups of patients. Based on the data presented in Table 1, patients in the observation group demonstrated significantly lower rates of re-attendance at the emergency department after their initial visit than patients in the control group (*P* < 0.05). The ADL scores of both groups were compared before and after the intervention. Furthermore, after the intervention, the ADL scores of the patients in both groups were significantly higher than those before the intervention (*P* < 0.05), and the ADL scores of the patients in the observation group were significantly higher than those in the control group (*P* < 0.05) (Table 2). The self-care abilities of the two groups were compared before and after the intervention. The Barthel index scores of the patients in the observation group were significantly higher than those in the control group (*P* < 0.05) (Table 3). After the intervention, there was a significant decrease in the SCL-90 scores for both groups compared to those before the intervention (*P* < 0.05) (Figure 1). Additionally, the SCL-90 scores of the patients in the observation group were significantly lower than those in the control group (*P* < 0.05). The SCL-90 scores of patients in the observation group were significantly lower than those in the control group (*P* < 0.05) (Table 4).

**DISCUSSION**

With global economic development, the overall quality of life has improved, leading to an increase in accidents and acute diseases. Consequently, the number of patients admitted to hospitals increased annually. Patients in the emergency department commonly present severe functional disorders of the limbs, including motor, sensory, and autonomic dysfunction. These impairments significantly reduce the patient’s self-care ability and can result in complications such as autonomic reflex disorders, deep vein thrombosis, and pressure sores. These complications not only cause physical and psychological harm to the patients but also impose a significant economic burden on their families.

In the emergency department, the primary treatment principle is to save the lives of patients. Additionally, efforts would be made to prevent or minimize the loss of function, reduce the occurrence of complications, and achieve the best possible recovery in the shortest time to enhance the quality of life. Although most patients are generally stable after treatment, they still require long-term care. Studies have confirmed that emergency department nursing, in addition to routine nursing, can improve patients’ motor functions, reduce the incidence of complications, and improve their quality of life.

The impact of emergency department nursing interventions on continuity of care, self-care, and psychological symptoms is an area of considerable research interest[25]. The literature review presented here highlights the fact that numerous studies have explored the impact of various emergency department nursing interventions on these aspects. In the cardiovascular field, interventions, such as home environment interventions and telephone support, have been found to enhance patient self-care and quality of life. These interventions empower patients to manage their condition better and provide them with support, thereby improving their understanding and ability to cope with their illness. Additionally, studies have focused on emergency department nursing interventions for critically ill patients and those with heart failure, indicating the potential of these interventions in improving patients’ self-care and psychological symptoms. In addition, for patients with heart failure and severe infections, the implementation of early fluid resuscitation in the emergency department has shown potential benefits in improving self-care and reducing psychological symptoms. These interventions can improve the physiological status of patients and facilitate their recovery and rehabilitation. Taken together, emergency department nursing interventions have a positive impact on the continuity of care, self-care, and psychological symptoms.

**CONCLUSION**

Emergency department care can help patients improve their caregiving capacity, reduce psychological symptoms, and improve their quality of life through individualized nursing interventions, self-management support, and early interventions. However, further research is needed to explore the impact of different types of emergency department nursing interventions on diverse populations and conditions to provide more accurate guidance and best practices. This study has limitations in terms of sample size, diversity of interventions, and time constraints. Additionally, the complexity of the emergency department settings may introduce other uncontrolled interventional factors.

**ARTICLE HIGHLIGHTS**

***Research background***

The emergency department plays a crucial role in providing acute care to patients, and nursing interventions in this setting are essential for improving continuity of care, enhancing patients’ self-care abilities, and reducing psychological symptoms.

***Research motivation***

To evaluate the impact of nursing interventions in the emergency department on these indicators in an emergency department.

***Research objectives***

This study examined various indicators of continuity of care, self-care, and psychological symptoms.

***Research methods***

A retrospective analysis was conducted on 120 patients admitted to the emergency department between January 2022 and May 2023. The patients were divided into two groups: the control group (conventional nursing intervention) and the observation group, which received both conventional nursing and emergency department nursing interventions. Patients in both groups were compared in terms of continuity of care, self-care ability, psychological symptoms, and satisfaction with care.

***Research results***

The emergency department nursing interventions significantly positively impacted various aspects. Specifically, these interventions improved the continuity of care, enhanced patients’ self-care abilities, and reduced psychological symptoms such as anxiety and depression.

***Research conclusions***

Additionally, the complexity of the emergency department settings introduces the possibility that other uncontrolled intervention factors may have an impact.

***Research perspectives***

Emergency department nursing interventions have the potential to improve patients’ self-care and psychological symptoms, suggesting their effectiveness. Furthermore, the implementation of early fluid resuscitation in the emergency department has shown potential benefits for patients with heart failure and severe infections, leading to improved self-care and reduced psychological symptoms. These interventions can improve the patient’s physiological status and facilitate recovery and rehabilitation.

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**Footnotes**

**Institutional review board statement:** This study was reviewed and approved by the Ethics Committee of The First Affiliated Hospital of Soochow University.

**Informed consent statement:** All study participants or their legal guardian provided informed written consent about personal and medical data collection prior to study enrolment.

**Conflict-of-interest statement:** We have no financial relationships to disclose.

**Data sharing statement:** No additional data are available.

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**Figure Legends**



**Figure 1 Impact of emergency department nursing intervention on continuity of care, self-care and psychological symptoms.** A: Before intervention; B: After intervention. ROC: Receiver operating characteristic; AUC: Area under the curve.

**Table 1 The observed indicators of continuity of care between the two groups of patients are compared**

|  |  |  |  |
| --- | --- | --- | --- |
| **Group** | **Re-visit rate** | **Hospitalization rate** | **Recurrence rate** |
| Observation group (*n* = 60) | 10 (16.67) | 15 (25.00) | 20 (33.33) |
| Control group (*n* = 60) | 40 (66.67) | 50 (83.33) | 54 (90.00) |
| *χ*2 | 7.281 | 6.310 | 5.431 |
| *P* value | < 0.001 | < 0.001 | < 0.001 |

**Table 2 Comparison of activities of daily living scores between the two groups before and after the intervention**

|  |  |  |
| --- | --- | --- |
| **Group** | **Pre-intervention** | **Post-intervention** |
| Observation group (*n* = 60) | 44.37 ± 7.32 | 96.74 ± 9.91a |
| Control group (*n* = 60) | 43.28 ± 6.24 | 85.66 ± 8.78a |
| T value | 0.124 | 8.732 |
| *P* value | 0.938 | < 0.001 |

a*P* < 0.05 *vs* pre-intervention group.

**Table 3 Comparison of self-care ability between the two groups before and after intervention (mean ± SD, points)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Group** | **Pre-intervention** | **Post-intervention** | **Barthel index rating scale score difference** |
| Observation group (*n* = 60) | 52.34 ± 6.85 | 78.63 ± 5.44a | 26.28 ± 6.62 |
| Control group (*n* = 60) | 52.00 ± 6.32 | 69.72 ± 5.81a | 17.72 ± 4.55 |
| T value | 0.209 | 6.330 | 6.032 |
| *P* value | 0.835 | < 0.001 | < 0.001 |

a*P* < 0.05 *vs* pre-intervention group.

**Table 4 Comparison of Symptom Self-Rating Scale scores before and after the intervention in the two groups (mean ± SD, points)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Group** | **Pre-intervention** | **Post-intervention** | **Poor SCL-90 score** |
| Observation group (*n* = 60) | 234.69 ± 25.35 | 162.44 ± 15.48a | 72.25 ± 20.00 |
| Control group (*n* = 60) | 235.50 ± 26.29 | 187.41 ± 16.53a | 48.09 ± 17.45 |
| T value | -0.126 | 6.236 | 5.149  |
| *P* value | 0.900 | < 0.001 | < 0.001 |

a*P* < 0.05 *vs* pre-intervention group. SCL-90: Symptom Self-Rating Scale.